

Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Claim 1 (currently amended) A method of transplanting hematopoietic cells ~~transplantation~~ comprising the steps of:

- (a) obtaining hematopoietic cells, to be transplanted from a donor;
- (b) providing said hematopoietic cells *ex vivo* with conditions for cell proliferation and, at the same time, ~~for reducing a capacity of said cells in utilizing copper, with a transition metal chelator having an affinity for copper,~~
~~wherein said chelator inhibits differentiation of said cells,~~
~~thereby expanding a population enriched for CD₃₄⁺ said cells, while at the same time, inhibiting differentiation of said cells;~~ and
- (c) transplanting said cells to a patient.

Claim 2 (original): The method of claim 1, wherein said donor and said patient are a single individual.

Claim 3 (previously canceled)

Claim 4 (currently amended): The method of claim 1, wherein ~~obtaining~~ said hematopoietic cells ~~further includes enriching said cells are enriched~~ for stem cells.

Claim 5 (currently amended): The method of claim 1, wherein ~~obtaining~~ said hematopoietic cells ~~further includes enriching said cells are enriched~~ for progenitor cells.

Claim 6 (cancelled)

Claim 7. (currently amended): The method of claim 6 1, wherein said transition metal chelator is tetraethylenepentamine.

Claim 8 (currently amended) The method of claim 1, wherein providing the cells with conditions for cell proliferation includes providing the cells with nutrients and a cytokine or cytokines.

Claim 9 (currently amended) The method of claim 8, wherein said cytokine or cytokines are is an early acting cytokine or cytokines.

Claim 10 (currently amended) The method of claim 9, wherein said early acting cytokine or cytokines are is a stem cell factor.

Claim 11 (currently amended): The method of claim 8, wherein said cytokine or cytokines are is a late acting cytokine or cytokines.

Claim 12 (currently amended): The method of claim 11, wherein said late acting cytokine or cytokines are is a granulocyte/macrophage colony stimulating factor.

Claim 13 (previously amended): The method of claim 1, wherein said cells are derived from neonatal umbilical cord blood.

Claim 14 (previously cancelled)

Claim 15 (original): The method of claim 1, wherein said cells are selected from the group consisting of non-differentiated stem cells and committed progenitor cells.

Claims 16-36 (previously cancelled)

Claim 37 (currently amended): A method of adoptive immunotherapy comprising the steps of:

- (a) obtaining progenitor hematopoietic cells from a patient;
- (b) providing said hematopoietic cells *ex vivo* with conditions for cell proliferation and, at the same time, ~~for reducing a capacity of said cells in utilizing copper, with~~

APPLICANTS: Peled et al.
U.S.S.N.: 09/463,320

a transition metal chelator having an affinity for copper, wherein said conditions for cell proliferation include providing said cell with nutrients and early acting cytokines, thereby expanding a population enriched for CD₃₄₊ said cells, while at the same time, inhibiting differentiation of said cells; and
(c) transplanting said cells to a patient.

Claim 38 (cancelled)

Claim 39 (currently amended): The method of claim 38 37, wherein said transition metal chelator is tetraethylenepentamine.

Claim 40 (cancelled)

Claim 41 (cancelled)

Claim 42 (currently amended): The method of claim 41, wherein said early acting cytokine or cytokines are is a stem cell factor.

Claim 43 (currently amended): The method of claim 40 37, wherein said conditions for proliferation further comprise providing the cells with a cytokines are late acting cytokine or cytokines.

Claim 44 (currently amended): The method of claim 42 43, wherein said late acting cytokine or cytokines are is a granulocyte/macrophage colony stimulating factor.

Claim 45 (previously amended): The method of claim 37, wherein said cells are derived from neonatal umbilical cord blood.

Claim 46 (previously cancelled)

APPLICANTS: Peled et al.
U.S.S.N.: 09/463,320

Claim 47 (original): The method of claim 37, wherein said cells are selected from the group consisting of non-differentiated stem cells and committed progenitor cells.

Claim 48 (newly added): The method of claim 1, wherein said hematopoietic cells are CD34⁺ cells.

Claim 49 (newly added): The method of claim 37, wherein said hematopoietic cells are CD34⁺ cells.

Claim 50 (newly added): The method of claim 1, wherein said hematopoietic cells are selected from the group consisting of early hematopoietic cells and hematopoietic progenitor cells.

Claim 51 (newly added): The method of claim 37, wherein said hematopoietic cells are selected from the group consisting of early hematopoietic cells and hematopoietic progenitor cells.

Claim 52 (newly added): The method of claim 1, wherein said transition metal chelator concentration is about 0.1 μ M to about 100 mM.

Claim 53 (newly added): The method of claim 52, wherein said transition metal chelator concentration is about 4 μ M to about 50 mM.

Claim 54 (newly added): The method of claim 53, wherein said transition metal chelator concentration is about 5 μ M to about 40 mM.

Claim 55 (newly added): The method of claim 37, wherein said transition metal chelator concentration is about 0.1 μ M to about 100 mM.

Claim 56 (newly added): The method of claim 55, wherein said transition metal chelator concentration is about 4 μ M to about 50 mM.

APPLICANTS: Peled et al.
U.S.S.N.: 09/463,320

Claim 57 (newly added): The method of claim 56, wherein said transition metal chelator concentration is about 5 μ M to about 40 mM.